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UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

RIDEAPP, INC.,

Plaintiff,

v.

LYFT, INC.

Defendant.

Case No. 4:18-CV-07152-JST

PLAINTIFF RIDEAPP, INC.'S REPLY IN SUPPORT OF ITS OPENING CLAIM CONSTRUCTION BRIEF

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I. INTRODUCTION

The '730 Patent includes an extensive disclosure of a physical structure—the central assigning system—programmed with step-by-step algorithms. Figure 9 includes a "data flow diagram"—a standard tool of software and algorithm design since the 1950s—to illustrate the data and message flow structure between the disclosed algorithms. Table 1 provides the step-by-step algorithms for each component of the system. Lyft opposes, relying on three legal fallacies.

(1) An "algorithm" may comprise step-by-step instructions that perform the claimed "function." That is the textbook definition of "algorithm," and the Patent Office has adopted it.

> An algorithm is defined, for example, as ''a finite sequence of steps for solving a logical or mathematical problem or performing a task.'' *Microsoft Computer Dictionary* (5th ed., 2002). Applicant may ''express that algorithm in any understandable terms including as a mathematical formula, in prose, or as a flow chart, or in any other manner that provides sufficient structure.'' *Finisar Corp. v. DirecTV Grp., Inc.*, 523 F.3d 1323, 1340 (Fed. Cir. 2008).

Examining Computer-Implemented Functional Claim Limitations for Compliance With 35 U.S.C. 112, 84 Fed. Reg. 57, 59-60 (Jan. 7, 2019). Lyft repeatedly argues otherwise.

Courts regularly find that even one- or two-step, functional algorithms are sufficient. *See, e.g., Harris Corp. v. Ericsson Inc.*, 417 F.3d 1241, 1254 (Fed. Cir. 2005) (two-step algorithm is sufficient to perform function). Indeed, messages alone can be sufficient. *AllVoice Computing PLC v. Nuance Commc'ns, Inc.*, 504 F.3d 1236, 1246 (Fed. Cir. 2007) (algorithm employing messages was sufficient); *Cypress Lake Software, Inc. v. Samsung Elecs. Inc.*, 382 F. Supp. 3d 586 (E.D. Tex. 2019) (a message for navigation is sufficient structure); *HTC Corp. v. IPCom GMBH*, No. Appeal 2015-007683, 2017 WL 48055833 (P.T.A.B. Oct. 23, 2017) *aff'd*, 771 Fed. Appx. 479 (Fed. Cir. 2019) (a single message can be corresponding structure); *Datascape Inc. v. Kyocera Wireless Corp.*, No. 1:05-CV-1651-CC, 2008 WL 11342941 (N.D. Ga. May 7, 2008) (same); *Personal Audio, LLC v. Google LLC*, 2019 WL 2403086 (2019) (same).

Lyft repeatedly complains that a step-by-step algorithm, or outputs, inputs, etc., are merely functional because they do not teach "how" to perform the function. But functional steps in an algorithm *are* the "how." *See, e.g., Pers. Audio, LLC v. Google LLC*, No. CV 17-1751-CFC-CJB,

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2019 WL 24030886, at *8 (D. Del. June 7, 2019) ("This *is* an articulation of the 'how' that Google says is missing from the patent—i.e., 'how' to do the modifying at issue.").

(2) Structure can perform more than one function. Lyft wrongly argues that it cannot. (Dkt. 104 at 4.) If structure is adequate to perform multiple functions, the law is clear that the structure is sufficient. *See, e.g., Caterpillar Inc. v. Deere & Co*, 224 F.3d 1374, 1377 (Fed. Cir. 2000); *see also Chem. Separation Tech., Inc. v. United States*, 51 Fed. Cl. 771, 789 (2002) ("[B]oth the Federal Circuit and this court have concluded that, providing no ambiguity is introduced, the same structure may perform more than one task and thus correspond to two or more differently-worded mean-plus functions.")

Lyft cites two cases to support its argument, but neither does. *Twin Peaks Software Inc. v. IBM Corp.*, 690 Fed. Appx. 656, 690 (Fed. Cir. 2017) (district court limited structure to one feature, which was not raised on appeal); *Default Proof Credit Card Sys., Inc. v. Home Depot U.S.A., Inc.*, 412 F.3d 1291, 1299-1300 (Fed. Cir. 2005) (intrinsic evidence required separate structures). Even Lyft's expert admitted that multiple functions that use location data could rely on structure that determines location. (Ex. A (Williams Dep. Tr. (Rough Draft)) at 137:9-13.)

(3) PTAB non-institution decisions are not binding. Lyft repeatedly cites to the PTAB decision (Dkt. 101-1)—in which Lyft declined to cite sufficient structure and RideApp was under no obligation to do so—in support of its arguments. The PTAB itself does not consider these decisions binding, and the Court should give it little weight. *Riddell, Inc. v. Kranos Corp.*, No. 16 C 4496, 2017 WL 2349714, at *4 (N.D. Ill. May 30, 2017) (*citing Trivascular, Inc. v. Samuels*, 812 F.3d 1056, 1068 (Fed. Cir. 2016)).

II. THE PATENT CLAIMS ARE CLEAR AND NOT INDEFINITE

A. "a system for tracking passenger transportation vehicle usage and distributing periodic invoices for the usage" (Claims 2(a), 3(a), & 6(a))

1. Structure "for tracking passenger transportation vehicle usage."

The specification teaches the corresponding algorithms for tracking. All vehicles in the system Report Position—that is, "[a]ll vehicles are equipped with locating means, e.g., GPS and periodically report position." ('730 Patent, Table 1 (Report Position).) The passenger also

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indicates their position when they request a ride. In the "Request Shared Ride" algorithm, the "passenger would have the ability with a few key strokes to request a trip…." ('730 Patent, Table 1.) The passenger location is obtained via wireless communication devices. ('730 Patent, 3:55-61.) The system is configured specifically for "(1) communications with passengers to schedule their trips and give them precise information on trip times and sites; (2) vehicle (and in some instances passenger) location communications using GPS technology; (3) communications to vehicles to allocate routes, schedules and passengers; and, (4) communications between passengers and vehicles to monitor system usage." ('730 Patent, 7:65-8:5.)

Mr. Yen describes the algorithm for this function. "All vehicles are monitored for location, projected future location, in-service status, assigned passengers, driver information, and actual loading by pick-up location. As trips are assigned this software causes notification of drivers both individually and in route as to their schedule and passenger loading." (*Id.*, Table 1 (Monitor Status for Vehicle Assignments).) The system stores "[d]ata about shared ride vehicles including rail, bus, van and car pools. The data includes current location, status (on or off line), current passenger assignments, passengers on board and locations to pick up." ('730 Patent, Table 1 (Transit Loading and Configuration).

2. Structure for "distributing invoices for the usage.

The "Monitor Status" module communicates with the "Update Billing Files" module, which "[c]auses the individual status files to be updated for monthly billing purposes..." ('730 Patent, Table 1 (Update Billing Files).) The system stores passenger transportation vehicle usage data for distribution of invoices through "Billing and Payment" module. ('730 Patent, FIG. 9 & Table 1.) A POSITA would understand this to be clearly linked. (Dkt. 101-6 ¶ 588-63.)

"RideApp's proposed structure directly addresses the function and provides an algorithm that describes how a general-purpose computer would be able to perform the proposed function, therefore the claim is definite." (Dkt. 101-6 at ¶ 65.)

3. The Structure Is Sufficient and Clearly Linked to the Functions.

Lyft and its expert deride these extensive algorithms as mere "black boxes" that recite only a series of inputs and outputs. As with most algorithms, the '730 Patent describes inputs and

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outputs, but then provides step-by-step algorithms that turn inputs *into* outputs. The "tracking" algorithm receives inputs (data about the usage, including location and loading) and provides outputs (data about the usage for distribution of periodic invoices); the messaging necessary for the system is clearly described. The passenger and driver input personal information for trip assignment and billing. Table 1 ("Set up Personal Profile as User or Driver"). The system stores "[d]ata about individuals who have subscribed to the system. These include standard trip configurations, contact data (cell phone no.), current status (on a vehicle and destination), and data needed for billing." ('730 Patent, Table 1 ("Individual Status and Configuration").) The vehicle/driver provides inputs in the form of data about position and loading so the system can ensure the vehicle is ready for usage. ('730 Patent, Table 1 ("Report Position").) The system also receives inputs when the passenger engages. (Table 1 ("Update Actual Loading").)

B. "a wireless means of on-demand allocation of a passenger to a specific vehicle through the system" (Claims 2(c) & 3(c))

In addition to the legal fallacies that Lyft pursues elsewhere, Lyft continues to insist that "allocation means assignment." (Dkt. 104 at 10, Dkt. 105-6 at ¶ 152.) The '730 Patent makes it clear that "allocation" and "assignment" are two different things. (Dkt. 105-11 at 31:8-10.) Even Lyft's expert opined that because the patent used different words a POSITA would have assumed "assignment" must mean something different than "allocation." (Dkt. 105-6 at ¶ 188.)

1. "Assigning passengers" is "providing alternative routings."

When the Patent explains the "assigning" or "matching" process, it does not use the word "allocation." Not once. Instead, the '730 Patent specifically explains that "**assigning passengers**" is "**providing alternative routings.**" ('730 Patent, 7:1-2.) "In **assigning passengers**, that is, **providing alternative routings**, the central assigning system interprets various data…." '730 Patent, 7:1-3. "If the trip request contains enough information for the system to associate the user with a profile and match the request with available services," the system then "searches the user[']s pickup sites identified using the user's cellular phone number." '730 Patent, 14:41-51.) "When as passenger requests service, the central assigning system **immediately assigns the passenger to one or more alternative anticipated routings**…." ('730

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Patent, 6:55-58.) "The system will match a user's request with existing services located at or near the user's pickup sites in step **504.6**. The system will also determine **alternatives** to the user's request if precise matches cannot be made." ('730 Patent, 14:49-54.) "**Providing alternative routings"** is **"assigning passengers**." ('730 Patent, 7:1-2; *see also* Table 1 (Notify Passenger, Updates ("The hand held terminal would display **trip options** in order of likely preference. This often would be only one as there is an obvious best transit option")).)

2. "Allocation" is a notification from the central processing system to a specific vehicle of a passenger assignment.

"Allocation" comes after "assignment," and it focus on "allocating" an assigned passenger **to a specific vehicle via a notification from the central processing system to a specific vehicle**. "Once the routes and methods are determined"—e.g., the "assignment"—"the central processing system **allocates** them…." ('730 Patent, 15:24-26; *see also* Dkt. 105-11 at 31:13-16 ("assignment happens before the allocation."). "As trips are assigned, this software causes notification of drivers both individually and in-route as to their schedule and passenger loading—e.g., "allocation." ('730 Patent, Table 1 (Monitor Status for Vehicle Assignments).) The '730 Patent explains that *communications to vehicles* allocate routes. ('730 Patent, 8:3-4.) As trips are assigned, the system notifies drivers of their schedule and passenger loadings. ('730 Patent, Table 1 (Monitor Status for Vehicle Assignments).

3. Lyft incorrectly equates "assignment" with "allocation."

Without support, Lyft argues that "the central assigning system can allocate—i.e., assign…." (Dkt. 104 at 10.) The specification that Lyft cites for this proposition fails to support Lyft's argument. ('730 Patent, 7:65-8:5.) While the paragraph does describe "data interpreted and evaluated by the central assigning system," it says nothing about interpreting data "so the central assigning system can allocate." (Dkt. 104 at 10; *see also* '730 Patent, 7:65-66.) Instead, this section describes the system's monitoring of passenger and vehicle information to provide estimated time of pick up, and updates. (*See* '730 Patent, 7:49-59 (the central assigning system "systematically monitors each passenger's and vehicles information, and then communicates to the passenger a pickup point (origination) and estimated time of pick up. The scheduling

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processor can inform the passenger of the type of vehicle, the exact destination site (if not fixed by the request), the expected time of arrival, the cost of the trip (if not fixed and requested as part of the passenger profile, and the expected time of travel. More than one communication may be required to update the information….").)

Likewise, Lyft claims the specification "equates allocation to the process of matching transit alternatives to passenger preferences," (Dkt. 104 at 10), but the section cited by Lyft only discusses various alternative embodiments, none of which equate allocation to assignment. (*See* '730 Patent, 3:56-59.) In Figure 5, the logic flow of a preferred embodiment of the transit system, the System can determine methods of transportation and routes based on "multiple parameters received from a passenger alone or in combination with transit parameters."[1] ('730 Patent, 15:2-6.) Passenger parameters can "include preferred routes, preferred means of transportation, preferred number of additional passengers in shared-ride vehicles, preferred type of vehicle, time of day of travel, duration of travel, and preferred method of payment." '730 Patent, 15:9-14. Once "assignment" has occurred—that is, the system has presented the user with "alternative routings"—the user may select his/her preferred route (a passenger parameter). ('730 Patent, 6:55-58; 7:1-3; 15:9-14; 15:39-43.)

4. <u>The antecedent basis for Claim 3(d)'s "assignment" is "allocation: communication of passenger *assignment* to a specific vehicle."</u>

Lyft's antecedent argument fails because "allocation" means "communication of a passenger assignment to a specific vehicle"; the antecedent basis for the "assignment" in Claim 3(d) is found within "allocation"—the "communication of a passenger *assignment*" in Claim 3(c).

5. <u>The specification clearly links structure to "on-demand allocation of a passenger to a specific vehicle through the system."</u>

Lyft continues to argue that the specification fails to provide an algorithm for how to "assign" passengers. (Dkt. 104 at 11.) As set forth below, RideApp disagrees but will focus on the algorithm for "allocation" set forth in the specification.

[1] "Transit parameters" can include vehicle availability, traffic conditions, travel conditions such as weather conditions, vehicle location, driver availability, vehicle status, driver status, and the like." ('730 Patent, 15:6-9.)

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The specification describes "allocation" as the process of communicating a passenger assignment to a specific vehicle. ('730 Patent, 8:3-4 ("communications to vehicles to allocate routes, schedules, and passengers"); 15:24-27 ("[o]nce the routes and methods are determined [assignment], the central processing system allocates them based on a passenger's parameters"); 16:6-8 ("In step **516**, the central assigning system then notifies vehicles and/or drivers of passenger assignments."); Dkt. 101-6 at ¶ 67.)

The specification sets forth structure that clearly links to this function:

> (1) system with wireless connectivity ('730 Patent, 5:54-64 ("Then central assigning system of the present transit system includes an assembly of digital computers and communication devices…"); 7:8-11 ("The central assigning system can dynamically update the schedule of vehicles…"); Abstract ("digital computers to provide real-time command and control of passengers and vehicles"));
>
> (2) a scheduling processor at the system ('730 Patent, Table 1 & FIG. 9 (Transit Loading and Configuration & Monitor Status for Vehicle Assignments;
>
> (3) a message from a passenger to the system to request a trip ('730 Patent, Table 1 (Request Shared Trip); and
>
> (4) a message from the system to a specific vehicle that identifies the passenger and pick-up location ((('730 Patent, Fig. 9 & Table 1 (Notify Driver ("Drivers…need to be notified of the exact time and place of pickups").)

6. <u>Even if "assignment" and "allocation" mean the same thing, the specification clearly links to sufficient structure.</u>

Even if Lyft were correct and "assignment" and "allocation" mean the same thing, the structure for "assignment" is provided by the algorithms set forth in Figures 5 and 6, and the accompanying text. "Assignment" begins with the trip request (502) and ends when the system adds the reservation to vehicle loading (510). ('730 Patent, FIGS. 5&6 and related text; see also '730 Patent, 14:5-17:11; 14:4-5 ("the central assigning system processes the trip request received from a passenger…"); 14:29-31 ("the central assigning system access[es] the user's data by accessing the cellular phone number associated with the user."); 14:41-53; 15:35-41.)

C. <u>"a wireless means of informing the passenger of the assignment and updated expected arrival time" (Claim 3(d))</u>

Lyft argues that the word assignment in this claim limitation is indefinite because there is no antecedent. (Dkt. 104 at 12, n. 6.) The claim is definite because the assignment is clearly related to the assignment of a vehicle to a passenger. Although the assignment process is not a

function of this claim, FIG. 9 and Table 1's Find Best Trip module makes clear what "the assignment" refers to, stating it "[s]olves the trip assignment task based on available vehicles, their schedules, and their passenger loadings." ('730 Patent, Table 1.) If the user does confirm the trip, the system adds a reservation under for that user in step **510** to the vehicle. The system in step **512** then updates the pickup times for that reservations as it dynamically updates with new vehicle and passenger information." ('730 Patent, 15:39-43; *see also* 17:43-53.)

Contrary to Lyft's assertion, the specification discloses sufficient structure linked to this function, as disclosed in the Opening Brief and the Yen declaration. The "Notify Passenger, Updates" module of FIG. 9 and Table 1 states in its name that it notifies the passenger and provides updates. While the Find Best Trip module solves the "trip assignment task," the matching process for trip assignment is not a claimed function. However, as RideApp noted and Lyft's expert recognized, the specification includes additional support for "informing the passenger of the assignment." For example, the specification states:

> The scheduling processor of the central assigning system systematically monitors each passenger's and vehicle's information, and then **communicates to the passenger a pickup point (origination site) and estimated or exact time of pick up**. The scheduling processor can further **inform the passenger of the type of vehicle, the exact destination site (if not fixed by the request), the expected time of arrival**, . . . and the expected total time of travel. More than one communication may be required to update information, particularly the exact time of trip origination.

'730 Patent, 7:47-58 (emphasis added).

The PTAB recently held that with respect to a patent claim reciting "a mobile station comprising an arrangement for reactivating a link with the first base station," that the specification disclosed a mobile station that "can reactivate the link to old base station BS1 by sending a simple message." *HTC Corp.*, 2017 WL 4805583, at *2. The PTAB held that "the specific 'algorithm' disclosed in the Specification…is the step of 'sending a message.'". *Id.* The PTAB also held that:

> [O]ne of skill in the art would have understood that 'informing' a controller of a desire to reactivate a link (and resultant reactivation of the link) would have encompassed 'sending a message' to convey that desire. We determine that 'sending a message' is a generally understood and widely accepted method of 'informing' or communicating, in general – particularly among those of skill in the art who are of ordinary creativity and who are not automatons."

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Id. (*citing KSR Intern. Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007). Similarly here, the '730 Patent discloses sufficient structure for an algorithm to inform the passenger of the assignment because all that is required is "sending a [simple] message" – a "widely accepted method of 'informing'" that would have been easily recognized by a POSITA. *Id.* The first function – informing the passenger of the assignment – simply requires a message to be sent.

Regarding the second function of this claim term – informing the passenger of the expected time at which the vehicle and passenger will meet, including updates to the arrival time – the specification provides ample structure linked to this function. As noted above, the System notifies the passenger of the expected pick-up time when it sends the assignment message. ('730 Patent, 7:47-58, Table 1 (Notify Passenger, Updates).) After the initial notification of the assignment and the estimated pick-up time, the system continues to monitor the vehicle's location and projected future location. ('730 Patent, Table 1 (Monitor Status for Vehicle Assignments; *see also* Report Position), 7:47-58; Dkt. 105-11 at 67:2-12.) The system monitors the vehicle's current location and projected future location, therefore it is able to determine velocity by storing the time stamps of the location fixes and calculate the estimated time for pick up. (*Id.*; Dkt. 105-11 at 67:12-69:19.) The system then sends update messages. ('730 Patent, Table 1 (Notify Passenger, Updates, Find Best Trip), 15:39-51, 15:66-16:2; Dkt. 105-11 at 70:3-12.) Thus, the specification discloses sufficient structure.

D. <u>"a wireless means of detecting the proximity of the passenger and alerting the passenger of the proximity of the vehicle" (Claim 6(c))</u>

Lyft argues that the first part of this claim – "detecting the proximity of the passenger" – is indefinite because it lacks any antecedent basis and because the passenger must be proximate to something not specified. (Dkt. 104 at 16.) To the contrary, the claim clearly refers to proximity between passenger and vehicle and a message alerting the passenger to that distance. ('730 Patent, 17:6-8, 17:46-51.) A POSITA would easily understand that the term proximity relates to the distance between the vehicle and passenger because, as the Supreme Court noted, "[a] person of ordinary skill is also a person of ordinary creativity, not an automaton." *KSR*, 550 U.S. at 421.

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Moreover, the structure for the first function of this claim term is also definite. The multi-step algorithm for detecting proximity is accomplished as the vehicle's location is monitored and stored in the system. ('730 Patent, Table 1 (Report Position, Transit Loading and Configuration, Monitor Status for Vehicle Assignments); Dkt. 105-11 at 53:7-61:17.) The passenger's location is similarly monitored and stored. ('730 Patent, Table 1 (Request Shared Trip).) As RideApp's expert, David Yen, testified, the calculation of proximity from two coordinates (vehicle location and passenger location) is as simple as applying the Pythagorean theorem (disclosed in the sixth century B.C.E.), which can be determined by any high school student, much less a POSITA. (Dkt. 105-11 at 61:18-25.) The Federal Circuit has held that where the specification discloses everything that is needed to perform a function except a mathematical calculation known to those skilled in the art, then the disclosure is sufficient. *In re Dossel*, 115 F.3d 942, 946 (Fed. Cir. 1997); *see also AllVoice Computing*, 504 F.3d at 1245 ("In software cases . . . algorithms in the specification need only disclose adequate defining structure to render the bounds of the claim understandable to one of ordinary skill in the art.") A POSITA would easily have been able to understand that the structure disclosed that when given two geographical coordinates, the distance between them could be calculated.

The Patent discloses structure for the second function – alerting the passenger of the proximity of the vehicle. ('730 Patent, Table 1 (Signal Vehicle of Presence); Dkt. 105-11 at 60:12-61:17.) As the proximity has already been detected, this function consists simply of a message to the passenger stating that proximity. The "Signal Vehicle of Presence" module of FIG. 9 and Table 1 states that "the passenger is automatically notified of proximity of vehicle." *Id.* As discussed *supra* at 8, sending a message is a "widely accepted method of 'informing' or communicating" that can constitute an algorithm recognized by "those of skill in the art who are of ordinary creativity." *HTC Corp.*, 2017 WL 4805583, at *2 (citing *KSR*, 550 U.S. at 421).

E. <u>The Term "Periodic" Should be Construed Consistently Throughout the Patent and Consistent with its Plain and Ordinary Meaning.</u>

Lyft argues for a narrow construction of "periodic" that limits the claim term to events occurring only at "regular intervals of time" and "independent of when a trip or segment of a trip

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is made." Before a claim term is given a meaning different from its plain and ordinary meaning, the intrinsic record must evidence a clear intent by the patentee to deviate from the customary meaning. *Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012). The intrinsic record of the '730 Patent does not show any such intent and Lyft does not explain why a departure from the plain and ordinary meaning is warranted.

Regarding the first part of Lyft's proffered construction, Lyft is half right. The '730 Patent contemplates periodic occurrences at regular **or** irregular intervals. The '730 Patent explains that a passenger can be presented with a bill "at a designated date," which can be regular ("perhaps monthly") or irregular ("at a designated date" or "as the event occurs"). ('730 Patent, 5:44-45, 16:30-33, 18:43-45.) Lyft omits from its analysis the portions of the specification that contemplate irregularly distributed billing (*see, e.g.*, '730 Patent, 18:55-57 (distinguishing between "monthly" and "periodic" billing practices)) and instead myopically focuses on the portions that contemplate billing at regular intervals to improperly limit the claim term. The Federal Circuit repeatedly warns against confining the claims of a patent to specific embodiments described in the specification. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed. Cir. 2005).

The '730 Patent contemplates periodic occurrences at irregular intervals. (*See* '730 Patent, 1:39-40 (referring to pollutants "periodically" washed away—not at regular intervals but from time to time upon occurrence of an event), 14:21-25 (periodic occurrences can change in frequency depending on circumstances), Table 1, Report Position (same); Table 1, Report Car Position and Use (same).) "Periodic" should be construed to accommodate the regular and irregular occurrences contemplated by the '730 Patent. *Acromed Corp. v. Sofamor Danek Grp., Inc.*, 253 F.3d 1371, 1382 (Fed. Cir. 2001) (claim terms require a meaning broad enough to include the usages in the specification).

Lyft's own expert, Dr. Williams, opined that periodically "can include various frequency and duration options, such as sending a message only once or resending it every two hours for a week." (Ex. B, *Google LLC v. AGIS Software Dev. LLC*, Case IPR2018-01079, Ex. 2007 (P.T.A.B. Mar. 29, 2019) ("Williams Tr.") at 96:13-16.) The key part of "periodic" is the word "period," referring to a period of time after which an event occurs. (*See, e.g.*, Ex. B (Williams

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Tr.) at 69:6-9 ("[T]he periodic element [is] a certain period of time, presumably configurable to reflect . . . a reasonable amount of time . . . in the circumstance.").) Lyft's claim that RideApp's proposed construction would "write the word periodic out of the claim limitation" fundamentally misunderstands the word "periodic," which only requires recurrence after a period of time, which can be regular or not. Lyft's own extrinsic evidence supports this.[2] (Dkt. 105-8 at 5 (defining periodic as "a series of repeated . . . processes"); Dkt. 105-9 at 4 ("recurrent").)

Lyft's proffered construction that periodic events occur "independent of when a trip or segment of a trip is made" should be categorically rejected.[3] This phrase has no relationship to the term "periodic" and is completely outside the scope of the plain and ordinary meaning of the term. Lyft asserts its construction is warranted because "the invention offers the 'great convenience' of not paying each time a trip is taken." Lyft omits a key phrase: "It is a great convenience not to need to make payment ***by cash, tokens, or credit cards*** each time a trip or segment of trip is made." ('730 Patent, 5:42-44 (emphasis added).) This convenience can be achieved through billing on a per-ride basis or otherwise. ('730 Patent, 18:43-45.)

F. "unified billing" (preamble only)

The preamble does not limit the claims. *Georgetown Rail Equip. Co. v. Holland L.P.*, 867 F.3d 1229, 1236 (Fed. Cir. 2017). This preamble is not "necessary to give life" to the claim. *Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002).

Lyft argues the preamble is limiting because the phrase "unified billing" recites additional structure or steps. An examination of the claims shows this not to be the case. The preamble—"[a]n automated system for providing unified billing for passenger transport"—only states the purpose of the claimed automated system. *See Acceleration Bay, LLC v. Activision Blizzard Inc.*, 908 F.3d 765, 771 (Fed. Cir. 2018) (affirming that "a computer network for providing an

[2] Other extrinsic evidence supports periodic encompassing regular or irregular intervals. *See, e.g.*, Ex. C, (defining periodic to include events "occurring at regular intervals" and "recurring irregularly"). "If more than one dictionary definition is consistent with the use of the words in the intrinsic record, the claim terms may be construed to encompass all such consistent meanings." *Texas Digital Sys., Inc. v. Telegenix, Inc.*, 308 F.3d 1193, 1203 (Fed. Cir. 2002)).

[3] Lyft also claims that "the Parties do not appear to dispute that the claimed periodic invoices are sent independent of when a trip is made." This is not true. RideApp has asserted the contrary.

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information delivery service" is non-limiting because it "simply provide[s] an intended use for what is otherwise a claim for a network"). Further, the body of the claims recite limitations related to billing. For example, claim 1 recites an "automatic means of billing for the use of the vehicle." Lyft claims this does not count because claim 1 is not asserted; that is irrelevant. Moreover, other asserted claims recite limitations related to invoicing. *See Georgetown Rail Equip.*, 867 F.3d at 1238 (finding that the phrase "mounted on a vehicle for movement along the railroad track" was not limiting because the claim body, standing alone, described a "structurally complete" system).

Lyft's argument for a construction other than the plain and ordinary meaning of the term is also unavailing. First, Lyft's proposed construction would exclude disclosed examples in the specification. Lyft asserts this is not the case without explaining how that is so. For example, presenting "an aggregation of the trips of a user in one bill statement" cannot accommodate the diverse methods of billing provided in the specification, including "charg[ing] trips taken as the event occurs." ('730 Patent, 18:44.) A "claim interpretation that excludes a preferred embodiment from the scope of the claim is rarely, if ever, correct." *See Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1305 (Fed. Cir. 2007).

Lyft's construction also improperly imports limitations from the specification into the claims. Lyft's construction requiring "an aggregation of the trips of a user in one bill statement" reads "aggregation" into the claims, which does not appear in the claim language.[4] An individual trip cannot be aggregated. Even Lyft's extrinsic evidence supports this.

G. "wireless communication between passengers, vehicles, and the system" (Claims 2(b), 3(b), & 6(b))

Lyft's primary argument to support adding the word "directly" to each side of the three-way communication triangle of this claim term is that RideApp made a prosecution disclaimer in its Preliminary Response to Lyft's IPR Petition. (Dkt. 104 at 23-24.) This is simply untrue.

[4] Lyft asserts that "there is no dispute aggregation of trips occurs." (Dkt. 104 at 21.) This is not correct. Lyft's confusion appears to stem from Lyft's interchanging "aggregating"—which does not appear in the claim language—with the claim term "unified." (*See* Dkt. 104 at 21-22). RideApp's position is that the plain meaning of "unified" is "brought together as one" and refers to the bringing together of the billing for passenger transport with the automated system. It does not require an aggregation of trips.

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There were only preliminary claim constructions—without detailed briefing—in Lyft's IPR before the PTAB denied institution. Neither RideApp nor Lyft proposed a construction of this term during the limited PTAB briefing. While RideApp did refer to "direct" communication between the passenger and the vehicle/driver, that use was in the colloquial sense of requiring that there be *some* communication between them—a feature entirely lacking in the prior art cited by Lyft. (Dkt. 104 at 23-24; Dkt. 105-10 at 34, 52; Dkt. 105-7 at 28.) RideApp's statements to the PTAB emphasized the absence of this feature in the prior art; they did not disclaim functionality of the '730 Patent's claims. The case upon which Lyft relies for its disclaimer argument, *Aylus Networks, Inc. v. Apple Inc.*, 856 F.3d 1353 (Fed. Cir. 2017), notes that in an IPR response a "patent owner can define claim terms and otherwise make representations about claim scope to avoid prior art for the purposes of either demonstrating that there is not a reasonable likelihood that the claims are unpatentable on the asserted grounds." *Id*. at 1362. Indeed, there was no reason for RideApp to disclaim "indirect" communication because Lyft's prior art lacked *any* functionality for communications between passenger and vehicle/driver.

Lyft next attempts to limit communications between passenger and vehicle/driver to only communications directly with vehicles, while ignoring that the '730 Patent often uses drivers and vehicles interchangeably when discussing communications with them in its specification. ('730 Patent, 12:13-39.)

H. "proximity"

Lyft argues that "proximity" should be construed to mean "nearness in space or time." Lyft's primary support for this construction is extrinsic evidence. Lyft improperly picks and chooses some definitions and ignores others. (*See* Dkts. 105-8 & 105-9 (providing definitions of proximity with no reference to time).) Even the definitions Lyft cites indicate that the type of closeness denoted by proximity is dependent upon context. (*See* Dkt. 105-9 ("nearness in space, time, ***etc.***") (emphasis added).) Second, Lyft's bypassing the intrinsic record for extrinsic evidence is improper because "[u]nless the inventor intended a term to cover more than the ordinary and customary meaning *revealed by the context of the intrinsic record*, it is improper to

read the term to encompass a broader definition…." *Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc.*, 711 F.3d 1348, 1362 (Fed. Cir. 2013) (emphasis in original).

RideApp sets forth ample evidence—which Lyft does not refute—that the intrinsic record shows proximity means distance. *See* Dkts. 101, 101-6 at ¶¶ 107-112. Even Lyft's IPR expert, Dr. Rosenberg, seemed to recognize that "proximity" relates to distance.[5]

Lyft claims the '730 Patent does not tie proximity to either time or distance but this is not true. Each instance of the '730 Patent's discussion of proximity contemplates geographical distance. (*See* '730 Patent, 17:49-50; Table 1 (Signal Vehicle of Presence) ("When approaching the transit vehicle (or station in the case of rail) the hand held terminal would notify the vehicle that the particular passenger was present . . . . [T]he passenger is automatically notified of proximity of vehicle."); *see also* Dkt. 105-11 at 61:3-7 ("Q: [I]f I am a person of ordinary skill in the art and I'm trying to detect when a passenger is within a certain proximity of the vehicle, what does that mean? A. Distance.").) Lyft also argues that proximity should encompass time and space because the specification mentions notifications based on time. But as Lyft acknowledges, the cited passage is not discussing proximity. That further supports construing proximity to mean distance and geographical closeness because when the '730 Patent refers to time, it says so.

III. CONCLUSION

For the foregoing reasons, the Court should find the '730 Patent's claims definite and adopt the claim constructions proposed by RideApp.

[5] Dr. Rosenberg stated: "A POSA would have recognized that a common understanding of the term ***proximity includes a nearness of two referenced objects***. The usage of the term within the '730 Patent claims and the discussion of related concepts in the specification supports this understanding. For example, the '730 Patent states that the central assigning system "provides the verification code of the passenger/renter ***so that when the passenger/renter is in proximity to the vehicle, the doors can be unlocked by pressing a key on the passenger's cell phone***. . . . When approaching the transit vehicle…the hand held terminal would notify the vehicle ***that the particular passenger was present and intended to board*** . . . . Correspondingly, the passenger is automatically notified of proximity of the vehicle." *See* Ex. D (*Lyft, Inc. v. RideApp, Inc.*, Case IPR2019-00671, Ex. 1003 (P.T.A.B. Feb. 12, 2019) ("Rosenberg Decl.") at ¶ 113) (emphasis added).

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